



Serial No. 09/577,805

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Thomas T. Hansen et al.

Examiner: Judson Jones

Serial No.: 09/577,805

Group Art Unit: 2834

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Docket: 1063.004US1

Title: HIGH POWER ULTRASONIC TRANSDUCERS

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Commissioner for Patents
Washington, D.C. 20231

Applicant has reviewed the Office Action mailed on July 19, 2002. Please amend the above-identified patent application as follows.

IN THE CLAIMS

Please substitute the claim set in the appendix entitled Clean Version of Pending Claims for the previously pending claim set. The substitute claim set is intended to reflect amendment of previously pending claims 1, 3, 7, 10, 14, 19 and 20. The specific amendments to individual claims are detailed in the following marked up set of claims.

1. (Twice Amended) A high power ultrasonic transducer comprising a housing having a predetermined geometry, means carried by the housing for providing power in excess of three kilowatts including a transducer having one or more active elements made from a giant magnetostrictive material and means for producing an electromagnetic field which extends through at least a portion of the one or more active elements, the one or more active elements each changeable between a first shape when in the absence of the electromagnetic field and a second shape when in the presence of the electromagnetic field, biasing means for biasing the one or more active elements, flux path means for capturing magnetic flux through the one or more active elements, means for providing an electrical signal to the means for producing an electromagnetic field, cooling means for cooling the one or more active elements and an acoustic element connected to the transducer for channeling ultrasonic energy to perform work.

3. (Once Amended) The ultrasonic transducer of Claim 2 [further comprising magnetic means for biasing the active element] wherein the biasing means is a magnetic means.

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